

## **REMARKS**

Claims 1-24, all the claims pending in the application, stand rejected on prior art grounds.

Claims 1-24 also stand rejected under 35 U.S.C. §101. Applicants respectfully traverse these rejections based on the following discussion.

### **I. The 35 U.S.C. §101 Rejection**

Claims 1-24 stand rejected under 35 U.S.C. §101 as being directed to non-statutory subject matter. Specifically, the Office Action provides that claims 1-18 (and further claims 19-24) are directed to methods etc., but that the “methods claimed appear to be directed towards abstract ideas and do not produce a useful, concrete and tangible result.” The Applicants traverse these rejections because the claimed computer-implemented method of “mining for association rules” necessarily produces a useful, tangible and concrete result: a new and different randomized dataset which in turn allows recovery and output of an association rule while controlling privacy breaches of individual transactions. These rejections are traversed as explained below.

The Federal Circuit in Arrhythmia Research Tech., Inc. v. Corazonix Corp., 958 F. 2d 1053, 22 USPQ 2d 1033 (Fed. Cir. 1992) at 1039 held that a claimed invention was statutory subject matter under §101 because: “The computer-performed operations transform a particular input signal to a different output signal, in accordance with the internal structure of the computer as configured by electronic instructions. ‘The claimed invention … converts one physical thing into another physical thing just as any other electrical circuitry would do.’” Thus, the useful, tangible and concrete result of the present invention is a new and different randomized dataset

which in turn allows the recovery of an association rule that preserves the privacy of individual transactions (see paragraph [0034]). That is, the claimed method of the present invention is statutory subject matter because the computer-performed operations transform a particular dataset (i.e., one physical thing) into a different data set (i.e., another physical thing).

Per the specification of the present invention, the amount of personal information contained in digital databases increases, privacy concerns have also increased (see paragraph [0006]). These concerns extend to tools, such as data mining, that are used to efficiently recover valuable, non-obvious information (e.g., association rules) from the databases (see paragraph [0004] of the specification). The present invention, as defined in amended independent claims 1, 7, 13, and 19, discloses a computer-implemented method of data mining for association rules, while simultaneously controlling privacy breaches of individual transactions within the databases (see paragraphs [0027-0028] and [0038-0043]). As discussed in detail in the specification in paragraphs [0059]-[0079], this method does not solely comprise performing a mathematical algorithm on a dataset. Rather it comprises taking an original dataset and producing a second new and different randomized data set by randomly dropping true items from each transaction in the original dataset as well as randomly inserting false items into each transaction in the original dataset. The randomized dataset is collected in a database and this database is mined to recover an association rule in said original dataset. Thus, the database that is produced by the present invention is a new useful, tangible and concrete result.

Furthermore, the database is used to recover and output an association rule from the original dataset. That is, support of the association rule in the randomized dataset is determined. Then, support of the association rule in the original dataset is estimated based on the support of

the association rule in the randomized dataset. Finally, the association rule is output if the support of the association rule in the original data set is estimated to be greater than a predetermined minimum. Thus, the present invention produces an output which is a new, useful, tangible and concrete result. Independent claims 1, 17, 13 and 19 are amended herein to reflect, not only the newly created randomized dataset (collected and stored in a database), but also the output of an association rule from the original dataset.

The Applicants note that all claims, as amended, are properly supported in the specification and accompanying drawings, and no new matter is being added. In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw the rejections.

## **II. Prior Art Rejections**

Claims 1-24 stand rejected under 35 U.S.C. §102(a) as being anticipated by Evfimievski (“Randomization in Privacy Preserving Data Mining,” December 2002, ACM SIGKDD Explorations Newsletter, Vol. 4, Issue 2, pp. 43-48) hereinafter referred to as Evfimievski. Applicants respectfully traverse these rejections because portions of the cited prior art (i.e., Randomization in Privacy Preserving Data Mining) that are cited as disclosing several features of the claimed invention are actually derived from and reference the Applicant’s own work, which was published within the year before the filing date of the present application. Thus, it should not be cited as prior art against the present invention.

More specifically, MPEP §2132.01 provides that the “Applicant’s disclosure of his or her own work within the year before the application filing date cannot be used against him or her under 35 U.S.C. 102(a). *In re Katz*, 687 F.2d 450, 215 USPQ 14 (CCPA 1982) (discussed

below). Therefore, where the applicant is one of the co-authors of a publication cited against his or her application, the publication may be removed as a reference by the filing of affidavits made out by the other authors establishing that the relevant portions of the publication originated with, or were obtained from, applicant. Such affidavits are called disclaiming affidavits. *Ex parte Hirschler*, 110 USPQ 384 (Bd. App. 1952)."

It is the Applicants position that cited portions of the prior art (i.e., Randomization in Privacy Preserving Data Mining) were actually derived from the another paper (Evfimievski, R. Srikant, R. Agrawal and J. Gehrke, "Privacy Preserving Mining of Association Rules," Proc. Of 8<sup>th</sup> ACM SIGKDD Intl. Conf. on Knowledge Discovery and Data Mining (KDD), July 2002, herinafter referred to as Privacy Preserving Mining of Association Rules. Furthermore, Privacy Preserving Mining of Association Rules is the Applicant's own work and was published within the year before the filing date of the present application.

Declarations were filed under 37 CFR §1.132 in support of this position. Specifically, in conjunction with the 35 U.S.C. §1.111 response filed on April 1, 2006 the Applicants submitted declarations signed by Alexandre Evfimievski (one of the three Applicants) and Johannes Gehrke (not an Applicant). Additionally, in conjunction with the 35 U.S.C. §1.116 response filed on September 26, 2006 the Applicants submitted an additional more detailed declaration signed by Alexandre Evfimievski and Ramakrishnan Srikant (another one of the three Applicant). In light of all of these declarations, the Applicants submit that any portions of Randomization in Privacy Preserving Data Mining that were derived from Privacy Preserving Mining of Association Rules are not available as prior art against the present application under 35 U.S.C. 102(a). One inventor named as an Applicant on the present Application, namely,

Rakesh Agrawal, is not a signatory of any of the declarations, as he is no longer an employee of the assignee, has not responded to requests to sign the declaration and, therefore, is not available.

Previously the Examiner found that the declarations submitted on April 11, 2006 were insufficient to overcome the rejection for the following reasons: (1) they were not properly executed because they were not signed by all inventors; (2) they did not establish that the reference is a publication of the Applicants' own work; (3) they did not provide sufficient facts and documentary evidence supported by actual proof; and (4) they did not refer to the claims, prior to the date of the reference. The Examiner additionally finds the revised declaration submitted on September 26, 2006 insufficient to overcome the rejections for essentially the same reasons: (1) it was not properly executed because it was not signed by all inventors; (2) it did not establish that the reference is a publication of the Applicants' own work; and (3) it did not provide sufficient facts and documentary evidence supported by actual proof.

The Declarations Were Properly Executed.

Regarding the Examiner's assertion that these declarations must be signed by all inventors in order to be considered properly executed, the Applicants again respectfully disagree. The Examiner now cites MPEP §716.10 in support of his position rather than MPEP §715.04. Specifically, §716.07 indicates that an affidavit or declaration may be submitted to attribute a reference or part of a reference to the applicant and, if so, the reference is no longer applicable." Obviously, this portion of §716.07 supports the Applicants position. This section of the MPEP includes one particular example of when subject matter is disclosed and not claimed in a patent application filed jointly by S and another inventor and then later claimed in separate application

filed by S. In that case, the joint application is valid prior art against the later application, unless over come by either a 37 CFR §1.131 or a 37 C.F.R §1.132.

Declarations under 37 CFR §1.131 require the signature of all inventors, but declarations under 37 C.F.R §1.132 do not. Specifically, 37 CFR §1.131 provides that declarations "to establish invention of the subject matter of the rejected claim prior to the effective date of the reference" must be signed by the inventor...". However, because the §1.131 requires the signature of all inventors, exceptions are specifically provided for. That is, §1.131 indicates that rather than the signature of all inventors, the signature of the "owner of the patent under reexamination" or of "the party qualified under §§1.42, 1.43 or 1.47" would be sufficient. This is explained in provision (D) of MPEP§715.04, which applies only to 37 CFR §1.131 declarations. For example, if it is impossible possible to produce the affidavit from all inventors, a petition can be filed with an explanation (see §1.47(a)) or the assignee may make the declaration (see §1.47(b)).

Contrarily, declarations filed under 37 CFR §1.132 declarations do not require the signature of all inventors. Specifically, §1.132 just provides that "any evidence submitted to traverse the rejection ... must be by way of an oath or declaration." Neither the MPEP nor the rules indicate specifically who may make a §1.132 declaration, as they do for a §1.131 rejection.

MPEP §716.10 further provides that "is incumbent upon the inventors named in the application, ...to rebut a rejection under 35 U.S.C. 102(a) or (e), to provide a satisfactory showing by way of affidavit under 37 CFR 1.132 that the inventorship of the application is correct in that the reference discloses subject matter derived from the applicant rather than invented by the author, patentee, or applicant of the published application notwithstanding the

authorship of the article or the inventorship of the patent or published application.” It does not provide by way of affidavit *signed by all applicants*, just by way of affidavit under 37 CFR 1.132. All that is required is “a satisfactory showing that would lead to a reasonable conclusion that [applicant] is the ... inventor” of the subject matter disclosed in the article and claimed in the application) (see *In re Katz*, 687 F.2d 450, 455, 215 USPQ 14, 18 (CCPA 1982)). The Applicants submit that such a satisfactory show is provided by the declarations signed by not only the Applicants but by the affidavit signed by Johannes Gehrke.

The Examiner has highlighted the portion of MPEP §716.10 which states “an unequivocal declaration by S under 37 CFR 1.132 that he or she conceived or invented the subject matter disclosed in the patent or published application” apparently in support of his position that the signature of all inventors is required on this particular type of 1.132 declaration. The Applicants respectfully disagree. Since in the example, applicant “S” is a single applicant (as evidenced by the phrasing “he or she” and not “they”), no inferences can be made regarding a requirement for the signature of all of multiple applicants on a 37 CFR §1.132 declaration. Again, there is no such requirement 37 CFR §1.132.

The Examiner has highlighted the portion of MPEP §716.10 which provides “However, a statement by the applicants regarding their inventorship in view of an article, patent, or published application may not be sufficient where there is evidence to the contrary” apparently in support of his position that the submitted declarations are insufficient for establishing attribution. The Applicants respectfully disagree. The highlighted portion of MPEP §716.10 is supported by *Ex parte Kroger*, 218 USPQ 370 (Bd. App. 1982) in which “a rejection under 35 U.S.C. 102(f) was affirmed notwithstanding declarations by the alleged actual inventors as to their inventorship in

view of a nonapplicant author submitting a letter declaring the author's inventorship". In that case, there was rebuttal evidence submitted (in the form of a letter) by a nonapplicant author declaring the author's inventorship. In this case, there is supportive evidence, submitted (in the form of a separate declaration under 37 CFR §1.132) by the only nonapplicant author (Johannes Gehrke) declaring that he was in fact NOT AN INVENTOR. Furthermore, while in the present invention, one of the three Applicants was not available to sign the §1.132 declaration, as discussed in detail above 37 CFR §1.132 does not all signatures. Thus, no presumptions can be made based on the lack of one inventor's signature. That is, the simple lack of one inventor's signature can not be considered evidence contrary to the evidence presented in the declaration.

The Examiner has also cited 37 CFR 1.47(a), highlighting the portion which provides "The oath or declaration in such an application must be accompanied by a petition including proof of the pertinent facts, the fee set forth in §1.17 (g), and the last known address of the nonsigning inventor." This highlighted portion is apparently in support of the position that since one of the coinventors did not sign the 37 CFR 1.132 declaration, a petition, fees, etc. should be filed. The Applicants respectfully disagree.

37 CFR 1.47(a)-(c) provides for contingencies if a joint inventor refuses to join in an application for patent or cannot be found after diligent effort. As discussed above, 37 CFR §1.131 provides that declarations "to establish invention of the subject matter of the rejected claim prior to the effective date of the reference" must be signed by the inventor...". However, because the §1.131 requires the signature of all inventors, exceptions are specifically provided for. That is, §1.131 indicates that rather than the signature of all inventors, the signature of the "owner of the patent under reexamination" or of "the party qualified under §§1.42, 1.43 or 1.47"

would be sufficient. This is explained in provision (D) of MPEP§715.04, which applies only to 37 CFR §1.131 declarations. For example, if it is impossible possible to produce the affidavit from all inventors, a petition can be filed with an explanation (see §1.47(a)) or the assignee may make the declaration (see §1.47(b)). Again, 37 CFR §1.132 does not require the signature of all coinventors and does not reference other qualified parties under §§1.42, 1.43 or 1.47 in the event one of the applicants is unavailable for signature.

In view of the foregoing the Applicants submit that the declarations, submitted under 37 CFR §1.132, were properly executed.

The Declarations Established That Cited Parts Of The Reference Are Attributable To The  
Applicants And Thus, The Reference Is No Longer Applicable

The declaration submitted on September 26, 2006 and on April 11, 2006 were offered to show that the relevant portions of “Randomization in Privacy Preserving Data Mining” (December 2002) cited by the Examiner were derived from a work of the applicants (namely, Evfimievski, R. Srikant, R. Agrawal and J. Gehrke, “Privacy Preserving Mining of Association Rules,” Proc. Of 8<sup>th</sup> ACM SIGKDD Intl. Conf. on Knowledge Discovery and Data Mining (KDD), July 2002) and that this work of the applicants also formed the basis for the present patent application. Thus, the publication, “Randomization in Privacy Preserving Data Mining” (December 2002), should have been removed as a reference (see MPEP 2132.01, Ex parte Hirschler, 110 USPQ 384 (Bd. App. 1952) and Ex parte Kroger, 219 USPQ 370 (Bd. Pat. App. & Int. 1982).

More specifically, the published article Randomization in Privacy Preserving Data Mining is an overview of research in the field of privacy preserving data mining and is derived from several papers. Portions of Randomization in Privacy Preserving Data Mining were derived from and directly reference Privacy Preserving Mining of Association Rules. Each of the Applicants of the present invention are co-authors on Privacy Preserving Mining of Association Rules along with J. Gehrke. Privacy Preserving Mining of Association Rules describes the invention defined by claims 1-24 and, specifically, was the paper on which the present application was based. The present application was filed within 1 year of the date of publication of Privacy Preserving Mining of Association Rules.

J. Gehrke was a professor and advisor of A. Evfimievski, during the time period in which the idea for the invention was conceived. J. Gehrke is listed as a co-author of Privacy Preserving Mining of Association Rules; however, he was not an inventor. It should be noted that although J. Gehrke's was not an inventor, his contributions to the paper were significant in that he acted as an advisor providing assistance in drafting the manuscript, in checking the manuscript for errors, in providing related literature for reference, etc. J. Gehrke has read U.S. Patent Application Serial No. 10/624,069 and has previously declared that he is not an inventor of the invention defined by claims 1-24. Consequently, the portions of Privacy Preserving Mining of Association Rules that describe the features of claims 1-24 describe the Applicants' own work and no one else's and predate the cited prior art.

Regarding the rejected claims 1-24, the Office Action provides that Randomization in Privacy Preserving Data Mining anticipates all of the various claimed features of the invention. However, many of the cited portions of Randomization in Privacy Preserving Data Mining are

not the original work of A. Evfimievski only, but rather were derived from other sources, including the paper Privacy Preserving Mining of Association Rules, which, as discussed above, describes the Applicants' own work (i.e., the work of A. Evfimievski, R. Srikant and R. Agrawal). Therefore, it necessarily follows that the any cited portions of Randomization in Privacy Preserving Data Mining, which the Office Action indicates as disclosing features of claims 1-24 and which are attributable to Privacy Preserving Mining of Association Rules and not attributable to any other source, would be considered to have been derived from the Applicants' own work. Consequently, those portions of Randomization in Privacy Preserving Data Mining would not be available as prior art against the present application (see above discussion of MPEP §2132.01).

More specifically, the following portions Randomization in Privacy Preserving Data Mining, which were cited in the Office Action as disclosing features of the present invention, were derived from the following portions of Privacy Preserving Mining of Association Rules and not from any other source. Thus, they should be considered the Applicants' own work and should not be available as prior art against the present application..

A. P. 43, left column, paragraph 3, lines 10 – right column, paragraph 1, line 2; p. 44, right column, paragraph 6, lines 2-4; and p. 45, left column, paragraph 4, lines 7-8 of Randomization in Privacy Preserving Data Mining were each cited as disclosing both the feature of “randomly dropping true items from each transaction in said original dataset” and the feature of “randomly inserting false items into each transaction in said original data set.”

Specifically, regarding p. 43, left column, paragraph 3, lines 10 – right column, paragraph 1, line 2, no specific reference is credited by Evfimievski for the cited sentence. However, the idea of “before sending its piece of data, each client perturbs it so that some true information is taken away and some false information is introduced” is derived directly from the statement “... in addition to replacing some of the items, we shall insert so many “false” items into a transaction that one is as likely to see a “false itemset as a “true” one”, which is found in the second sentence of section 4 of Privacy Preserving Mining of Association Rules.

Regarding p. 44, right column, paragraph 6, lines 2-4, no specific reference is credited by Evfimievski for the cited sentence. The first sentence in paragraph 6 that immediately precedes the cited lines refers specifically to Privacy Preserving Mining of Association Rules along with another reference, the publication date of which is later (i.e., August 2002). Additionally, this sentence, “Suppose that each client  $C_i$  has a transaction  $t_i$ , which is a subset of a given finite set of items  $I$ ,  $|I| = n$ ” does not amount to “randomly dropping true items from each transaction in said original dataset” or “randomly inserting false items into each transaction in said original data set”, but rather defines the transaction prior to randomly dropping true items therefrom.

Regarding p. 45, left column, paragraph 4, lines 7-8, again no specific reference is credited by Evfimievski for the cited sentence; however, the sentence immediately following explains the statement and does credit Privacy Preserving Mining of Association Rules. Additionally, the idea of a “natural way to randomize a set of items is by deleting some items and inserting some new items is derived directly from the statement “... in addition to replacing some of the items, we shall insert so many “false” items into a transaction that one is as likely to

see a “false itemset as a “true” one” (see second sentence of section 4 of “Privacy Preserving Mining of Association Rules” (July 2002)).

B. P. 45, left column, paragraph 8, lines 1-3 of Randomization in Privacy Preserving Data Mining is cited in the Office Action as disclosing the features of “creating a randomized dataset by collecting said randomized transactions” and of “collecting said randomized dataset in a database.”

Again, no specific reference is credited by Evfimievski for the cited sentence, which states “In the set T’ of randomized transactions available to the server, itemsets have supports very different from their supports in the nonrandomized dataset T.” However, this sentence is contained within a section of the paper that comprises a summary Privacy Preserving Mining of Association Rules and, specifically, a summary of section 4 of the article. More specifically, the idea of “creating a randomized dataset by collecting said randomized transactions” is derived directly from Definition 5 of Section 4.1 of “Privacy Preserving Mining of Association Rules” (July 2002). That is, randomization R is “a per-transaction randomization if, for  $T = (t_1, t_2, \dots, t_N)$ , we can represent  $R(T)$  as  $R(t_1, t_2, \dots, t_N) = (R(1, t_1), R(2, t_2), \dots, R(N, t_N))$ , where  $R(i, t)$  are independent random variables whose distributions depend only on t (and not on i). We shall write  $t'_i = R(i, t_i) = R(t_i)$ .” It should be noted that the cited sentence on p. 45, left column, paragraph 8, lines 1-3 does not refer at all to collecting a randomized dataset in a database.

C. P. 45, left column, paragraph 9- right column, paragraph 6, line 9 of Randomization in Privacy Preserving Data Mining is cited in the Office Action as teaching the feature of “mining said database to recover an association rule after said dropping and inserting processes by estimating nonrandomized support of said association rule in said original dataset based on randomized support for said association rule in said randomized dataset, wherein due to said creating of said randomized transactions, privacy breaches of said individual transactions are controlled during said mining.”

This portion of Randomization in Privacy Preserving Data Mining specifically references Privacy Preserving Mining of Association Rules and is derived from Sections 4.3 and 4.4.

D. P. 45, left column, paragraph 4, line 13- paragraph 8, line 11 of Randomization in Privacy Preserving Data Mining is cited in the Office Action as teaching the feature of “wherein said process of creating randomized transactions comprises per transaction randomizing, such that randomizing operators are applied to each transaction independently.”

This portion of Randomization in Privacy Preserving Data Mining specifically references Privacy Preserving Mining of Association Rules and is derived directly from Sections 4.1.

E. P. 45, left column, paragraph 4, line 7- paragraph 8, line 11 is cited in the Office Action as teaching the feature of “wherein said process of creating randomized

transactions is item-invariant such that a reordering of said transactions does not affect outcome probabilities.”

Again, this portion of Randomization in Privacy Preserving Data Mining specifically references Privacy Preserving Mining of Association Rules and is derived directly from Remark 1 of Section 4.1.

F. P. 46, left column, paragraph 3, lines 1-13 of Randomization in Privacy Preserving Data Mining is cited as teaching the features of “wherein said dropping of said true items and said inserting of said false items are carried out to an extent such that the chance of finding a false itemset in a randomized transaction relative to the chance of finding a true itemset in said randomized transaction is above a predetermined threshold” and “wherein said predetermined threshold provides that the chance of finding a false itemset in said randomized transaction is approximately equal to the chance of finding a true itemset in said randomized transaction.”

Again, this portion of Randomization in Privacy Preserving Data Mining specifically references Privacy Preserving Mining of Association Rules and is derived from the second sentence in Section 4 and Section 4.1.

G. P. 45, left column, paragraph 8, line 1- paragraph 9, line 33 of Randomization in Privacy Preserving Data Mining is cited as teaching the feature of “wherein said

process of creating randomized transactions is performed independently on said transactions prior to the transactions being collected in said database.” No specific reference is credited by Evfimievski for the cited sentence. However, this sentence is contained within a section of Privacy Preserving Mining of Association Rules that does refer to and summarize “randomization” as described in “Randomization in Privacy Preserving Data Mining.

#### Response To Examiners Arguments.

The Office Action on page 5 states that the rejection of claims 1-24 is based on the publication of Randomization in Privacy Preserving Data Mining and not on Privacy Preserving Mining of Association Rules. However, as discussed in detail above, since Privacy Preserving Mining of Association Rules is attributable to the applicants, any portion of Randomization in Privacy Preserving Data Mining that is derived from Privacy Preserving Mining of Association Rules is also attributable to the applicants (see MPEP §2132.01 and MPEP §716.10) and, therefore, not applicable as a reference.

The Office Action further asserts that the source of the portion of the publication relied upon are not limited to Privacy Preserving Mining of Association Rules. Specifically, the Office Action cites one example on (e.g., page 44, right column, last paragraph, line 1) where a different source is mentioned and indicates that the Applicants have failed to submit declarations for the authors of this other source disclaiming the content of the present application, etc. Page 44, right column, last paragraph, line 1, refers to another source in conjunction with the Privacy

Preserving Mining of Association Rules that generally considered randomization of categorical data, in the context of association rules. However, the specific details of the other source are not discussed, whereas pages 45 goes not to discuss specific details of the Privacy Preserving Mining of Association Rules. Furthermore, set out above and in the submitted declarations, the Applicants clearly identified the claimed features, which the Examiner has indicated were disclosed in Randomization in Privacy Preserving Data Mining, which are in fact attributable to the work of the Applicants alone (i.e., as set out in to Privacy Preserving Mining of Association Rules), and which, more particularly, are not attributable to any other source/author/inventor. That is, Randomization in Privacy Preserving Data Mining does not attribute these features to any source/inventor/author other than Privacy Preserving Mining of Association Rules. Finally, contrary to the Examiner's assertion, no affidavit from the other authors of the other sources can be required (see MPEP§716.10 which provides that "Disclaimer by the other patentee or other applicant of the published application should not be required ...").

In view of the foregoing, the Applicants submit that the §1.132 declarations previously offered in response to the §102 rejection of claims 1-24 are properly executed and that these declarations establish that the cited portions of the Randomization in Privacy Preserving Data Mining, which disclose the claimed features of the present invention, can be attributed to the Privacy Preserving Mining of Association Rules, which is the Applicants' own work. Thus, the Randomization in Privacy Preserving Data Mining should be removed as a reference. Moreover, the Applicants note that all claims are properly supported in the specification and accompanying drawings, and no new matter is being added. In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw the rejections.

### **III. Formal Matters and Conclusion**

With respect to the rejections to the claims, the claims have been amended, above, to overcome these rejections. In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw the rejections to the claims.

In view of the foregoing, Applicants submit that claims 1-24, all the claims presently pending in the application, are patentably distinct from the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary. Please charge any deficiencies and credit any overpayments to Attorney's Deposit Account Number 09-0441.

Respectfully submitted,

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